

MetGlyPheLeuLysLeuIle (SEQ ID NO:2)
CTGCCGCCGGCGCCGCGGCCGTCATGGGGTTCCTGAAACTGATT
GACGGCGGCCGCGCGCCGCGCAGTACCCCAAGGACTTTGACTAA (SEQ ID NO:1)
5 10 15 20 25 30 35 40

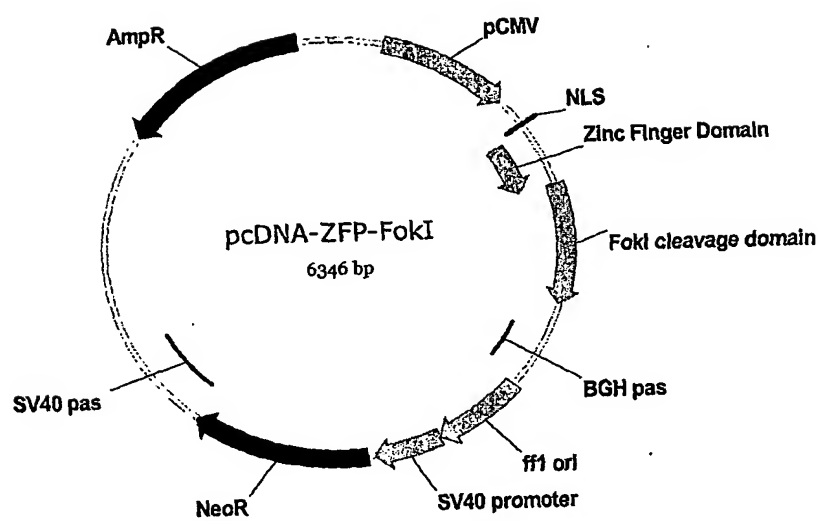
FIGURE 2

FIGURE 3

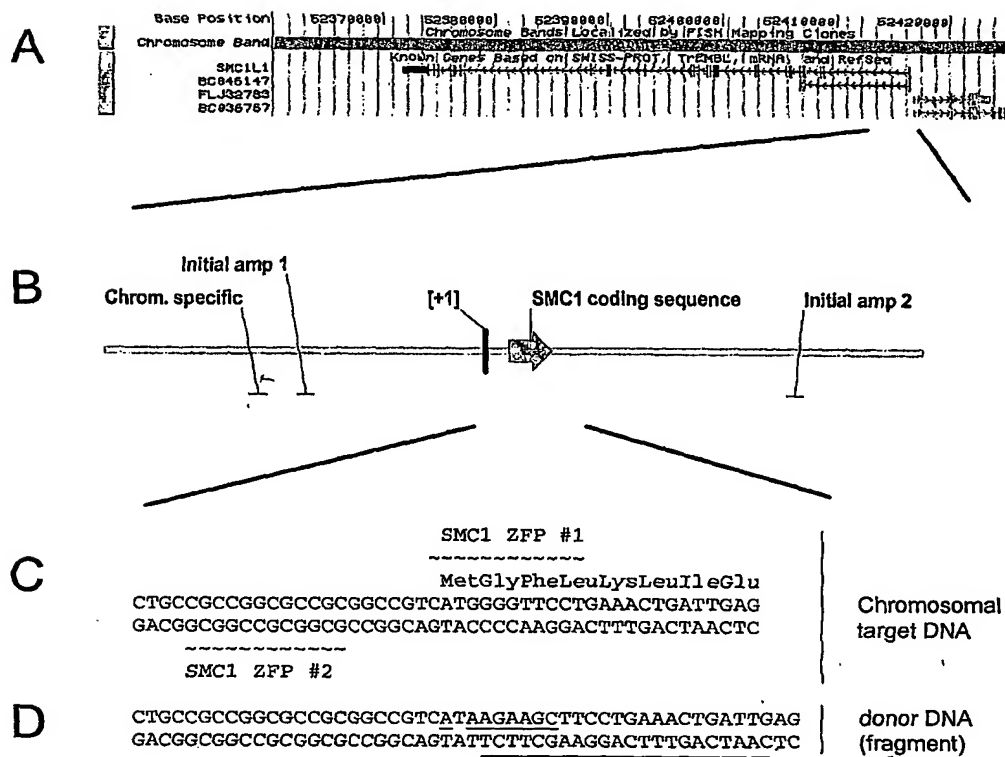


FIGURE 4

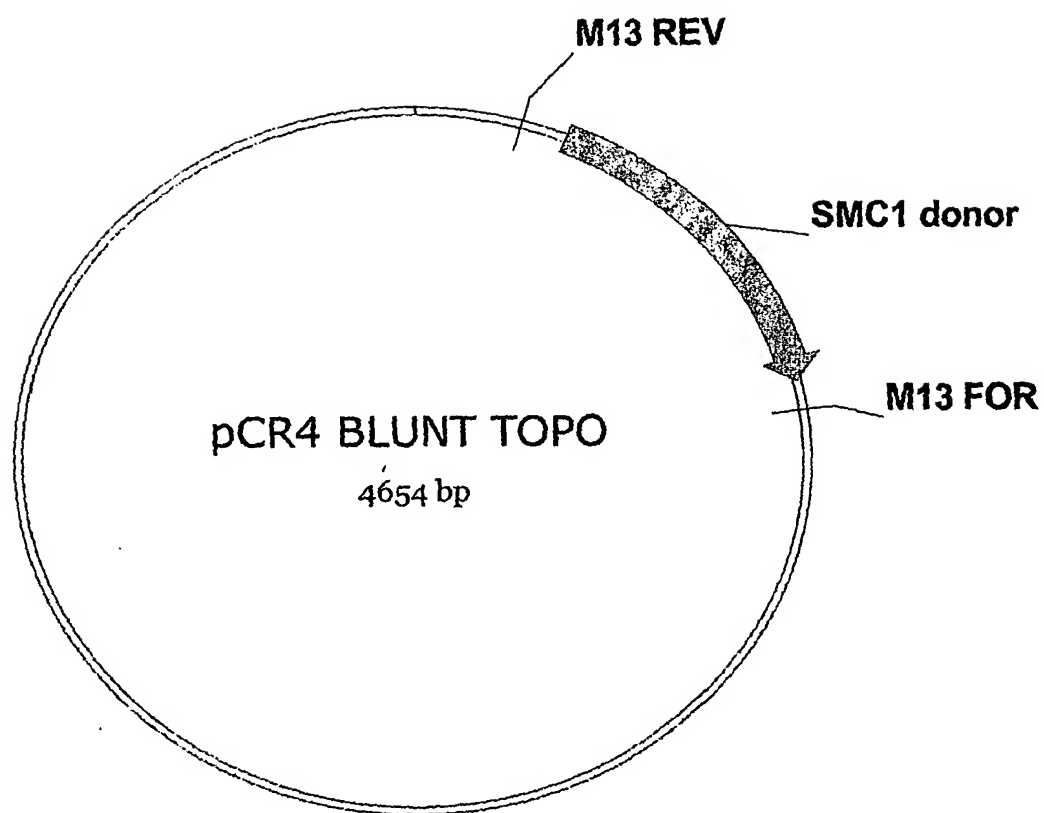


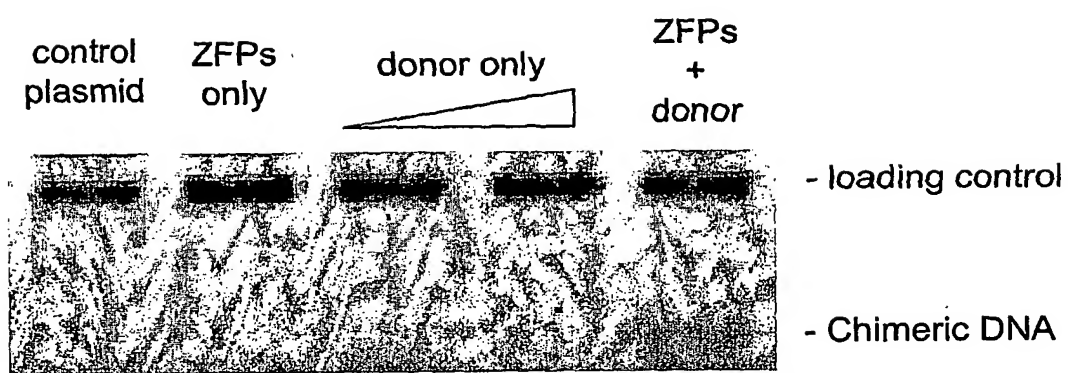
FIGURE 5

FIGURE 6

<u>TAGTCCTGCAGGTTTAAACGAATTCGCCCTTCTCAGCAAGCGTGAGCTCA</u>	50
<u>GGTCTCCCCCGCCTCCTTGAACCTCAAGAACTGCTCTGACTCCGCCCAGC</u>	100
<u>AACAACCTCCTCCGGGGATCTGGTCCGCAGGAGCAAGTGTTTGTTGTTGCC</u>	150
<u>ATGCAACAAGAAAAGGGGGCGGAGGCACCAAGCCAGTCGTCAGCTCGCTC</u>	200
<u>CTCGTATACGCAACATCAGTCCCCGCCCTGGTCCCCTCCTGCCGGAAG</u>	250
<u>GCGAAGATCCCGTTAGGCCTGGACGTATTCTCGCGACATTTGCCGGTCGC</u>	300
<u>CCGGCTTGCACTGCGGCGTTTCCCGCGCGGGCTACCTCAGTTCTCGGGCG</u>	350
<u>TACGGCGCGGCCTGTCCTACTGCTGCCGGCGCCGCGGCCGTCATaagaag</u>	400
<u>cTTCTTGAACCTGATTGAAGGGCGAATTCGCGGCCGCTAAATTCAATTCTG</u>	450
<u>CCCTATAGTGAGT</u>	

(SEQ ID NO: 6)

FIGURE 7

TyrLysAsnSerAspAsnAspLysVal (SEQ ID
 NO: 8)
 CTTCCAACCTTTCTCCTCTAGGTACAAGAACTCGGAATAATGATAAAGTCC
 GAAGGTTGGAAAGAGGAGATCCATGTTCTTGAGCCTATTACTATTTCAGG (SEQ ID
 NO: 7)
 5 10 15 20 25 30 35 40 45 50

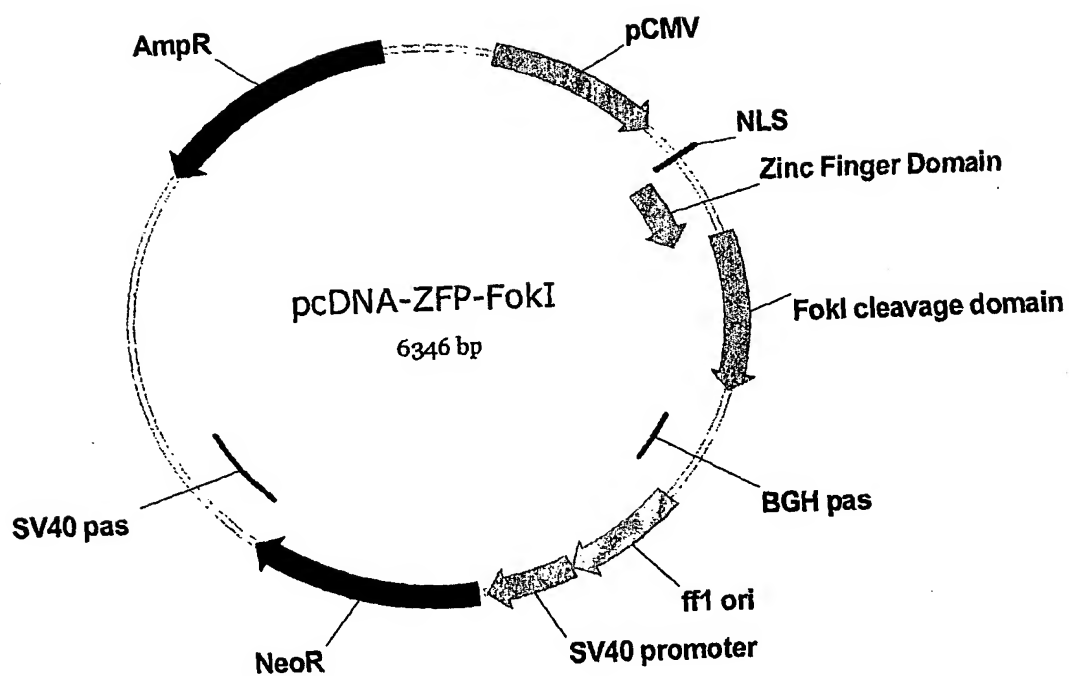
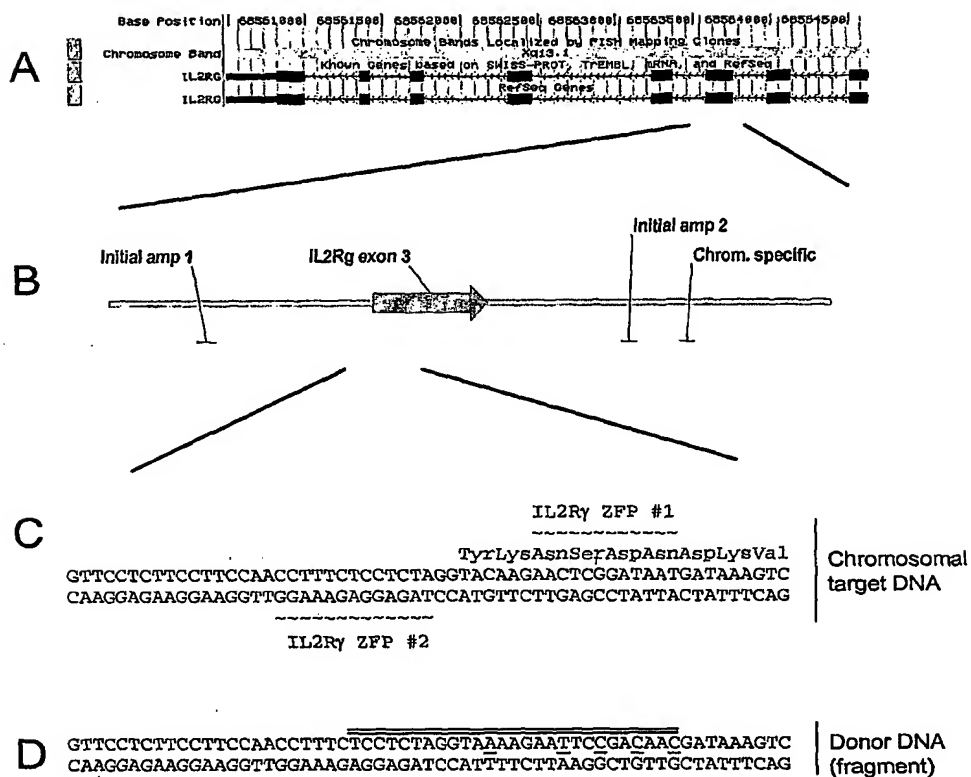
FIGURE 8

FIGURE 9



10/45

FIGURE 10

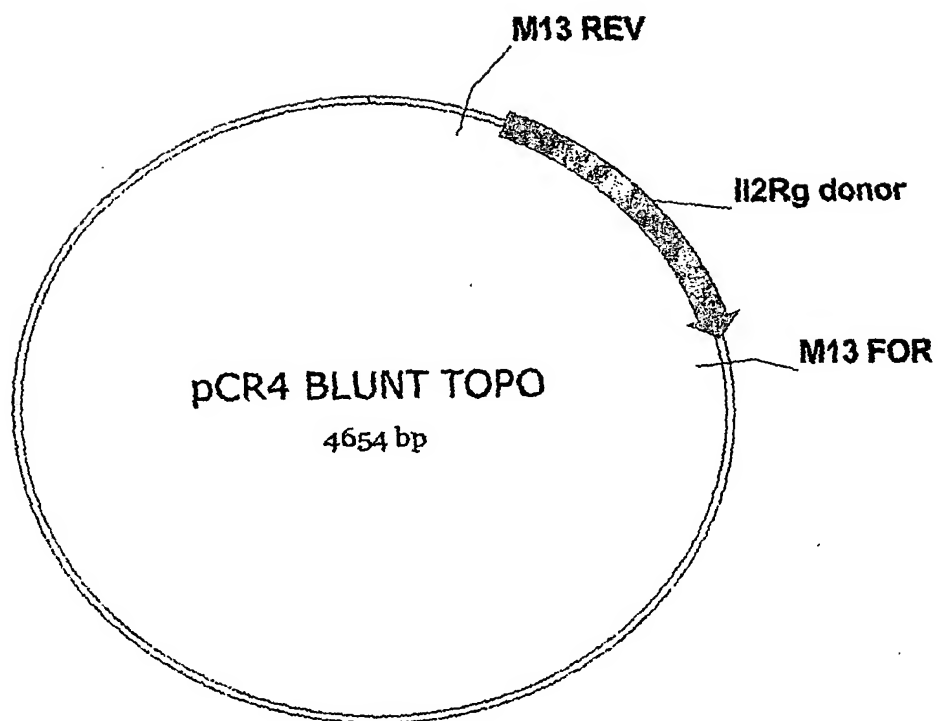


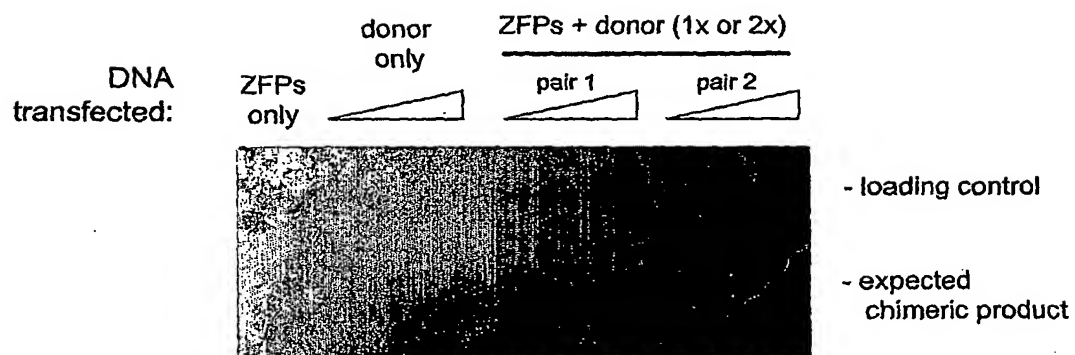
FIGURE 11

FIGURE 12

<u>TAGTCCTGCAGGTTTAAACGAATTCGCCCTTTCTCTAGGTAA</u>	50
<u>AGAAATTC</u>	
<u>CcGAcAAcGATAAAGTCCAGAAGTGCAGCCACTATCTATTCCCTGAAGAA</u>	100
<u>ATCACTTCTGGCTGTCAGTTGCAAAAAAAGGAGATCCACCTCTACCAAAC</u>	150
<u>ATTTGTTGTTTCCAGCTCCAGGACCCACGGGAACCCAGGAGACAGGCCACAC</u>	200
<u>AGATGCTAAAACTGCAGAATCTGGGTAATTTGGAAAGAAAGGGTCAAGAG</u>	250
<u>ACCAGGGATACTGTGGGACATTGGAGTCTACAGAGTAGTGTTCTTTTATC</u>	300
<u>ATAAGGGTACATGGGCAGAAAAGAGGAGGTAGGGGATCATGATGGGAAGG</u>	350
<u>GAGGAGGTATTAGGGGCACTACCTTCAGGATCCTGACTTGTCTAGGCCAG</u>	400
<u>GGGAATGACCACATATGCACACATATCTCCAGTGATCCCCTGGGCTCCAG</u>	450
<u>AGAACCTAACACTTCACAACTGAGTGAATCCCAGCTAGAACTGAACTGG</u>	500
<u>AACAACAGATTCTTGAACCACTGTTTGGAGCACTTGGTGCAGTACCGGAC</u>	550
<u>TAAGGGCGAATTCGCGGCCGCTAAATTC AATTCGCCCTATAGTGAGTCGT</u>	600
<u>ATTACAATTCACTGGCCGTCGTTT</u>	

(SEQ ID NO:12)

FIGURE 13

TACTGATGGTATGGGGCCAAGAGATATATCTTAGAGGGAGGGCTGAGGGT	50
TTGAAGTCCAACCTCCTAAGCCAGTGCCAGAAGAGCCAAGGACAGGTACGG	100
CTGTCATCACTTAGACCTCACCCCTGTGGAGCCACACCCTAGGGTTGGCCA	150
ATCTACTCCCAGGAGCAGGGAGGGCAGGAGCCAGGGCTGGGCATAAAAGT	200
CAGGGCAGAGCCATCTATTGCTTACATTTGCTTCTGACACAAC TGTGTTT	250
ACTAGCAACCTCAAACAGACACCATGGTGCATCTGACTCCTGAGGAGAAG	300
TCTGCCGTTACTGCCCTGTGGGGCAAGGTGAACGTGGATGAAGTTGGTGG	350
TGAGGCCCTGGGCAGGTGGTATCAAGGTACAAGACAGGTTTAAGGAGA	400
CCAATAGAACTGGGCATGTGGAGACAGAGAAGACTCTTGGGTTTCTGAT	450
AGGCACTGACTCTCTCTGCCTATTGGTCTATTTTCCCACCCTTAGGCTGC	500
TGGTGGTCTACCCTTGGACCCAGAGGTTCTTTGAGTCCTTTGGGGATCTG	550
TCCACTCCTGATGCTGTTATGGGCAACCCTAAGGTGAAGGCTCATGGCAA	600
GAAAGTGCTCGGTGCCTTTAGTGATGGCCTGGCTCACCTGGACAACCTCA	650
AGGGCACCTTTGCCACACTGAGTGAGCTGCACTGTGACAAGCTGCACGTG	700

(SEQ ID NO:13)

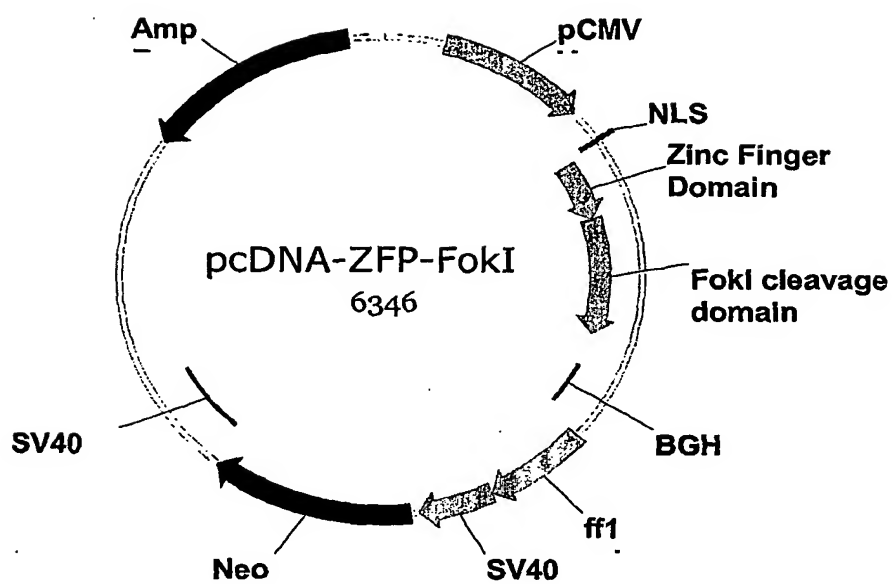
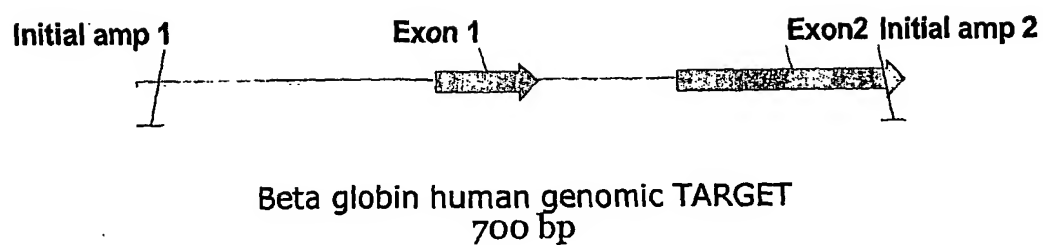
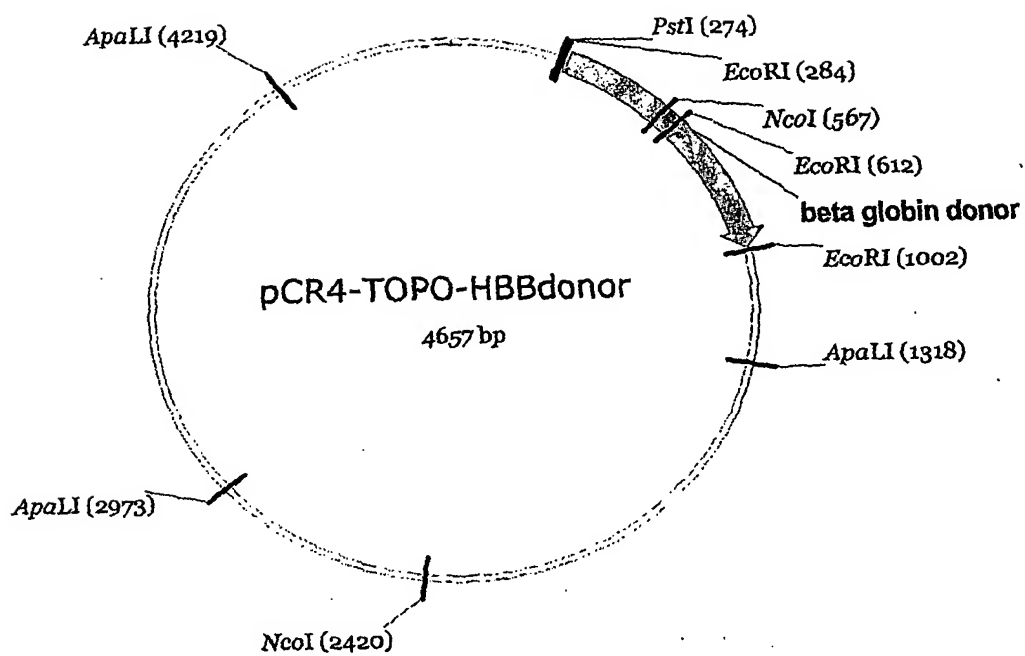
FIGURE 14

FIGURE 15



16/45

FIGURE 16



17/45

FIGURE 17

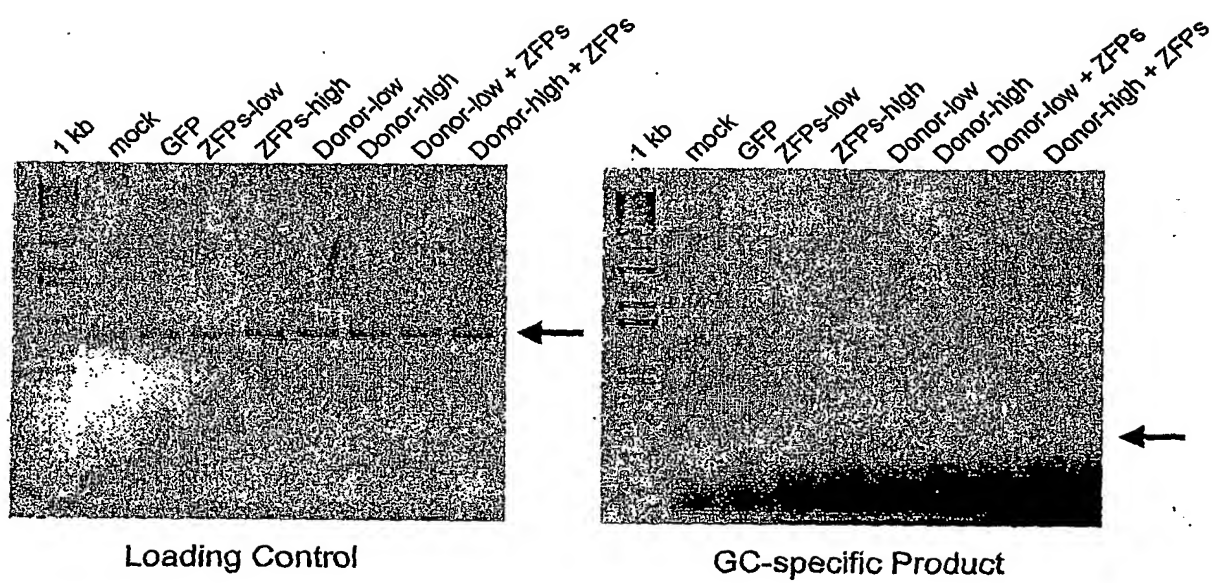


FIGURE 18

TGCTTACCAAGCTGTGATTCCAAATATTACGTAAATACACTTGCAAAGGA	50
GGATGTTTTTAGTAGCAATTTGTACTGATGGTATGGGGCCAAGAGATATA	100
TCTTAGAGGGAGGGCTGAGGGTTTGAAGTCCAACCTCCTAAGCCAGTGCCA	150
GAAGAGCCAAGGACAGGTACGGCTGTCATCACTTAGACCTCACCTGTGG	200
AGCCACACCCTAGGGTTGGCCAATCTACTCCCAGGAGCAGGGAGGGCAGG	250
AGCCAGGGCTGGGCATAAAAGTCAGGGCAGAGCCATCTATTGCTTACATT	300
TGCTTCTGACACAACTGTGTTCACTAGCAACCTCAAACAGACACCATGGT	350
GCATCTGACTCCTGAGGAGAAGTCTG <u>CGTTAgTGCCCGaattccgAtcG</u>	400
<u>TcAACcac</u>	

(SEQ ID NO:14)

FIGURE 19

5-8
CACGTTTCGTGTTTCGGAGCCGCTTTAACCCACTCTGTGGAAG
GTGCAAAGCACAAAGCCTCGGCGAAATTGGGTGAGACACCTTC
5-10

(SEQ ID NO:15)

FIGURE 20

1 MAPKKRKVG IHGVPAAAE RPFQCRICMR NFSRSDNLSE HIRHTGKEP FACDICGRKF
61 ARNAARRINHT KIHTGSQKPF QCRICMRNFS RSDTLSEHIR THTGEKPFAC DICGRKFAAR
121 STRTTHTKIH LRQKDAARGS QLVKSELEEK KSELRHKLKY VPHEYIELIE IARNSTQDRI
181 LEMKVMEFFM KVGYRGKHL GGSRKPDGAI YTVGSPIDYG VIVDTKAYSG GYNLPIGQAD
241 EMQRYVEENQ TRNKHINPNE WWKVYPSSVT EFKFLFVSGH FKGNYKAQLT RLNHITNCNG
301 AVLSVEELLI GGEMIKAGTL TLEEVRRKFN NGEINF

(SEQ ID NO:16)

FIGURE 21

1 MAPKKRKRVG IHGVPAAAE RPFQCRICMR NFSRSDSLSR HIRHTGKEKP FACDICGRKF
61 ADSSNRKTH TIHTGGGGSQ KPFQCRICMR NFSRSDSLSV HIRHTGKEKP FACDICGRKF
121 ADRSNRITHT KIHLRQKDA RGSQLVKSEL EEKKSELRHK LKYVPHEYIE LIEIARNSTQ
181 DRILEMKVME FFMKVYGYRG KHLGGSRKPD GAIYTVGSPI DYGVIVDTKA YSGGYNLPIG
241 QADEMQRYVE ENQTRNKHIN PNEWWKVYPS SVTEFKFLFV SGHPKGNYKA QLTRLNHITN
301 CNGAVLSVEE LLIGGEMIKA GTLTLEEVRR KFNNGEINF

(SEQ ID NO:17)

FIGURE 22

CGAATTCTGCAGTCGACGGTACCGCGGGCCCCGGGATCCACCGGTCGCCACCATGGTGAGC
AAGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTA
AACGGCCACAAGTTCAGCGTGTCGCGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTG
ACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCCACCCTCGTGACC
ACCCTGACCTACGGCGTGTCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGAC
TTCTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGAC
GACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGC
ATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAG
TACAACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAG
GTGAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTAC
CAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCACTACCTGAGC
ACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAG
TTCGTGACCGCCCGCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGC
GACTCTAGATCATAATC

(SEQ ID NO:18)

FIGURE 23

CGAATTCTGCAGTCGACGGTACCGCGGGCCCCGGGATCCACCGGTCGCCACCATGGTGAGC
AAGGGCGAGGAGCTGTTTACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTA
AACGGCCACAAGTTCAGCGTGTCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTG
ACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCCGTGCCCTGGCCCCACCTCGTGACC
ACCCTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCTAACACGAAGCAGCAGCACTT
CTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGA
CGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCAT
CGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTA
CAACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGT
GAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCA
GCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCACTACCTGAGCAC
CCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTT
CGTGACCGCCGCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGCGA
CTCTAGATCATAATC

(SEQ ID NO:19)

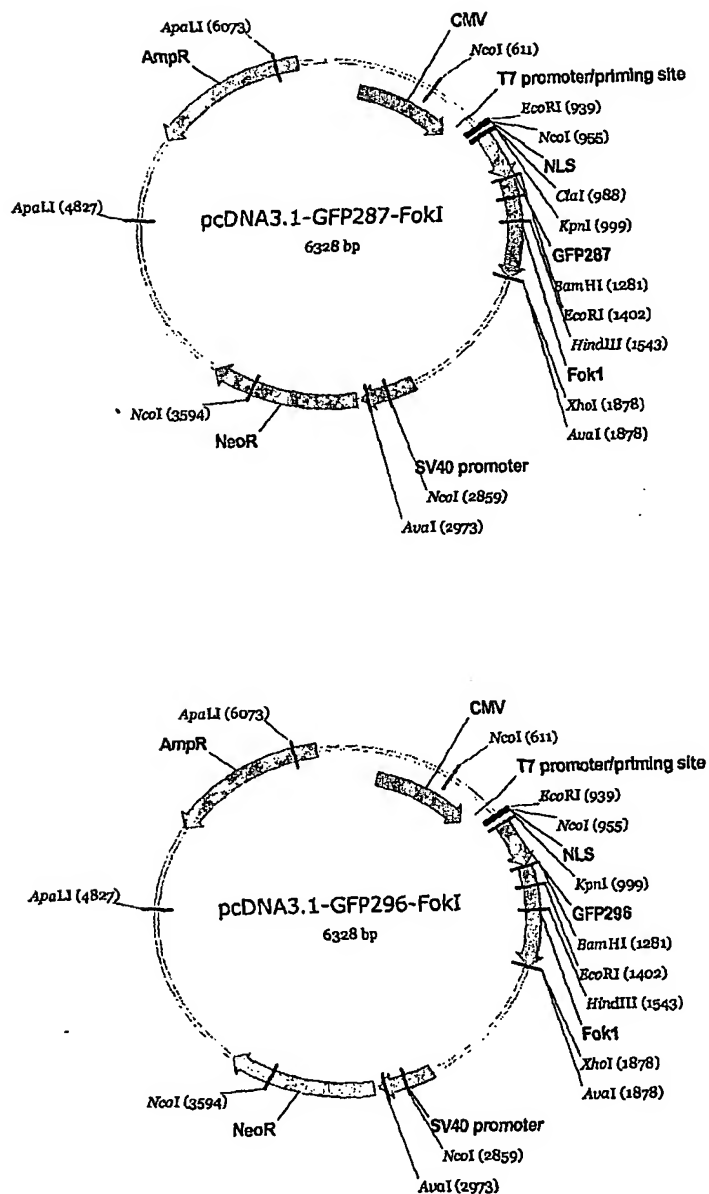
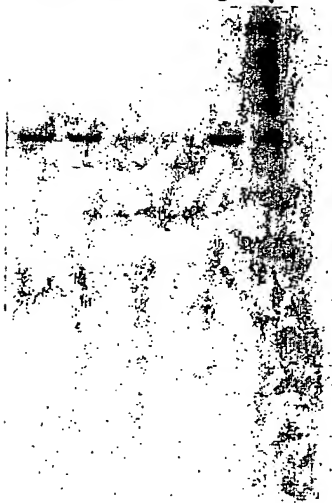
FIGURE 24

FIGURE 25

287a-F1/296s-F1



Uncut control
Marker



26/45

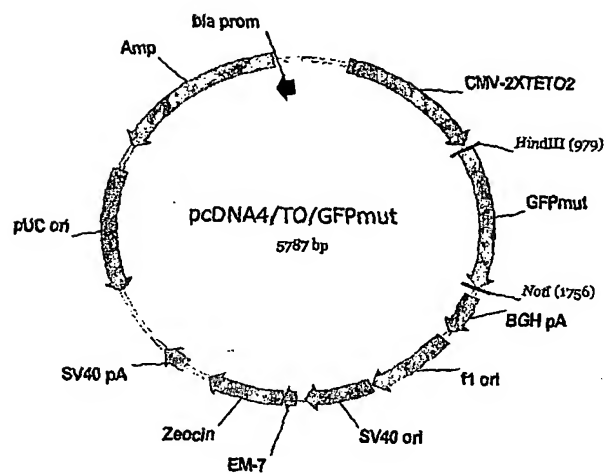
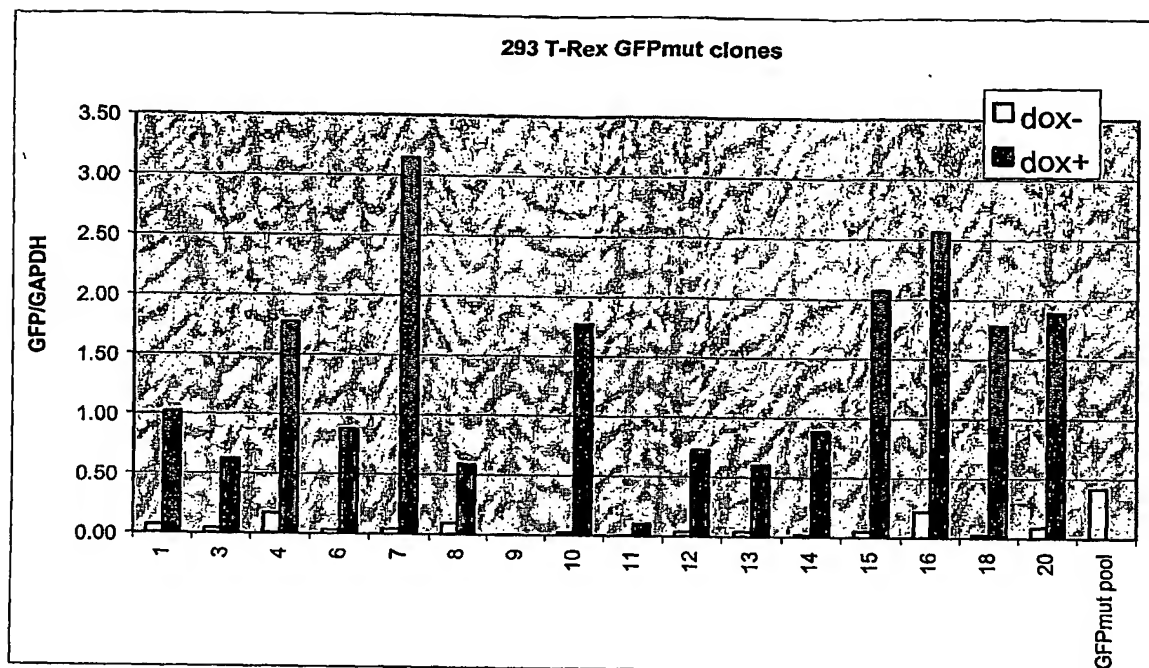
FIGURE 26

FIGURE 27

28/45

FIGURE 28

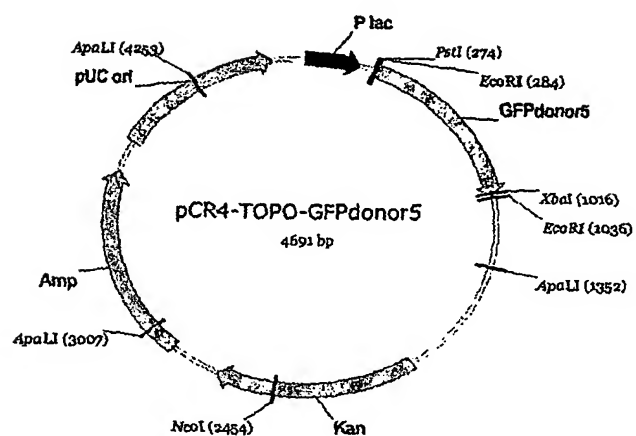


FIGURE 29

GGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAAC
GGCCACAAGTTCAGCGTGTCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACC
CTGAAGTTCATCTGCACCACCGCAAGCTGCCCCGTGCCCTGGCCCACCTCGTGACCACC
CTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTC
TTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGAC
GGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATC
GAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTAC
AACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTG
AACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAG
CAGAACACCCCATCGGCGACGGCCCCGTGCTGCTGCCCGACAACCACTACCTGAGCACC
CAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTC
GTGACCGCCGCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGCGAC
TCTAGATCATAATC

(SEQ ID NO:20)

FIGURE 30

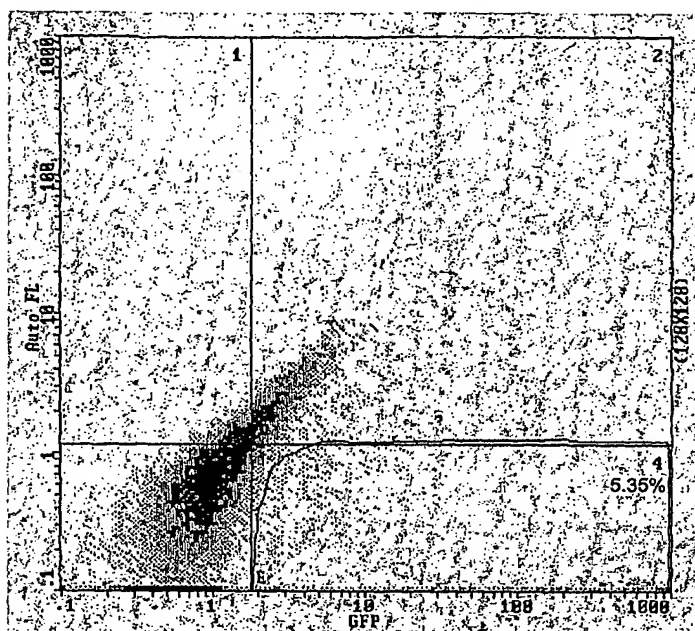


FIGURE 31

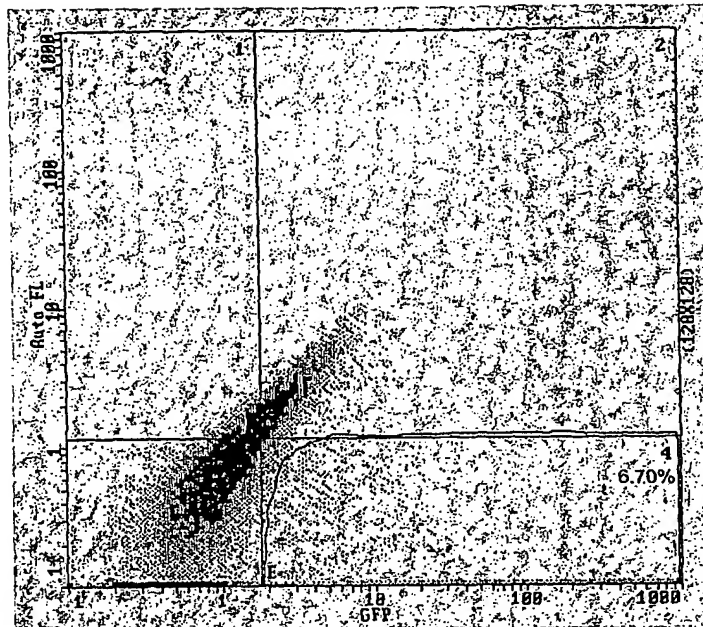


FIGURE 32

GGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCGACGTAAAC
GGCCACAAGTTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACC
CTGAAGTTCATCTGCACCACCGGCAAGCTGCCCCGTGCCCTGGCCCACCCTCGTGACCACC
CTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCAGCAGCTTC
TTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGAC
GGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATC
GAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTAC
AACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTG
AACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAG
CAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCACTACCTGAGCACC
CAGTCCGCCCCTGAGCAAAGACCCCCAACGAGAAGCGCGATCACATGGTCCCTGCTGGAGTTC
GTGACCGCCGCGGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGCTCG
AGTCTAGAGGGCCCGTTTAAACCCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGC
CATCTGTGTGTTTGCCCCCTCCCCCGTGCCTTCCTTGACCCTGGAAGGTGCCACTCCCCTG
TCCTTTCCCTAATAAAAATGAGGAAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCT
TGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATG
CTGGGGATGCGGTGGGCTCTATGGCTTCTGAGGCGGAAAGAACCAGCTGGGGCTCTAGGG
GGTATCCCCACGCGCCCTGTAGCGGCGCATTAAGCGCGGCGGGTGTGGTGGTTACGCGCA
GCGTGACCGCTACACTTGCCAGCGCCCTAGCGCCCGCTCCTTTCGCTTTCTTCCCTTCCT
TTCTCGCCACGTTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGGGGGCTCCCTTTAGGGT
TCCGATTTAGTGCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTCAC
GTAGTGGGCCATCGCCCTGATAGACGGTTTTTTCGCCCTTTGACGTTGGAGTCCACGTTCT
TTAATAGTGGACTCTTGTTCCAAACCTGGAACAACACTCAACCCTATCTCGGTCTATTCTT
TTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAATGAGCTGATTTAAC
AAAAATTTAACGCGAATTAATTCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCCCC
AGGCTCCCCAGCAGGCAGAAGTATGCA

(SEQ ID NO:21)

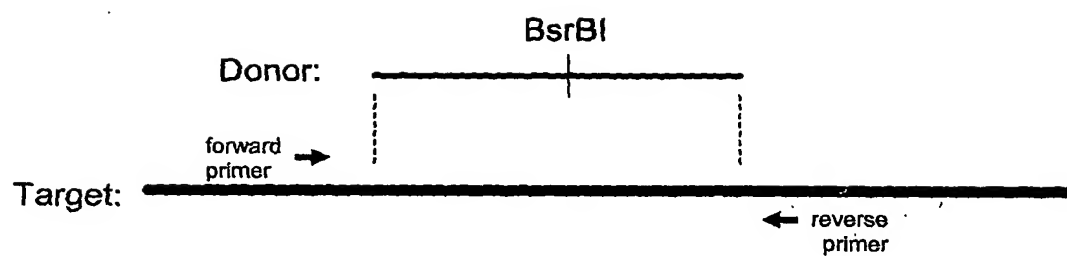
FIGURE 33

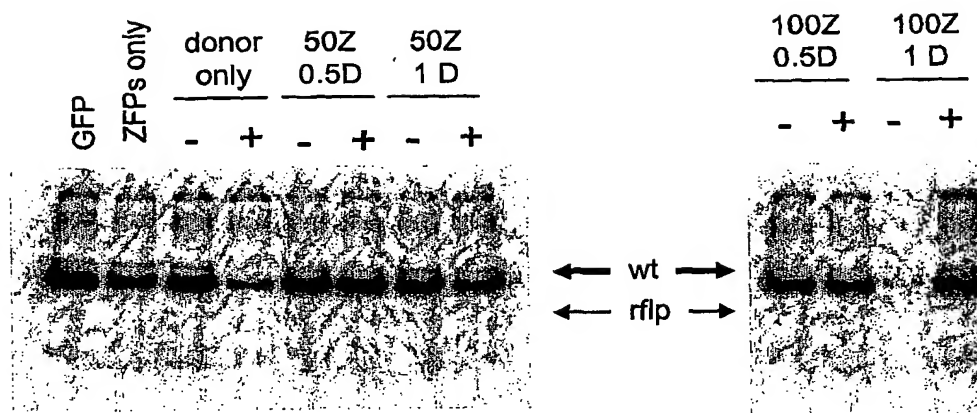
FIGURE 34

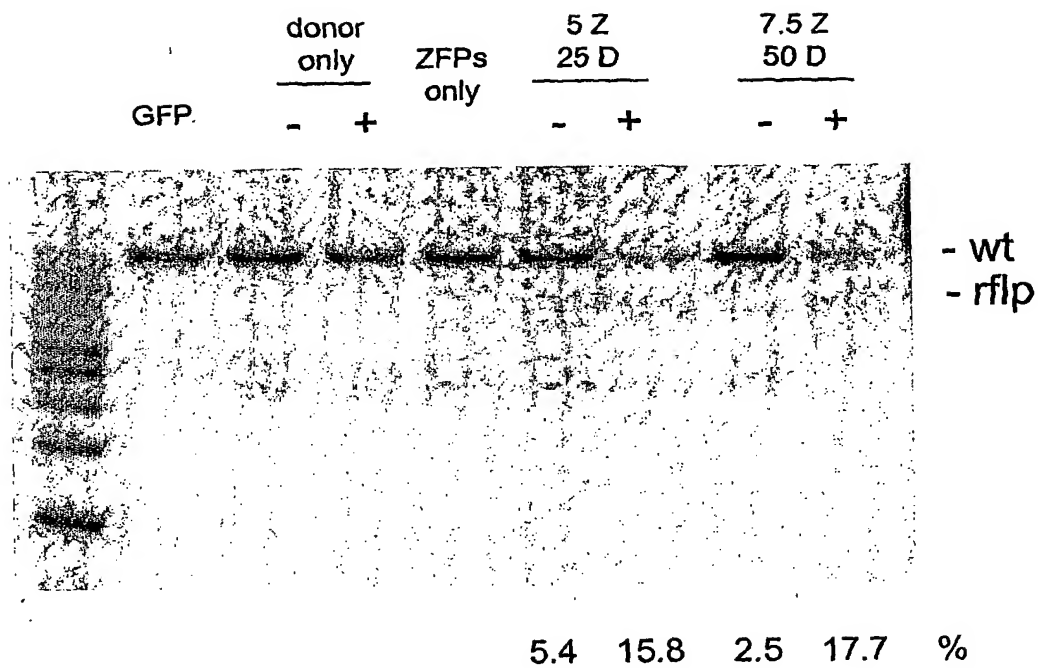
FIGURE 36

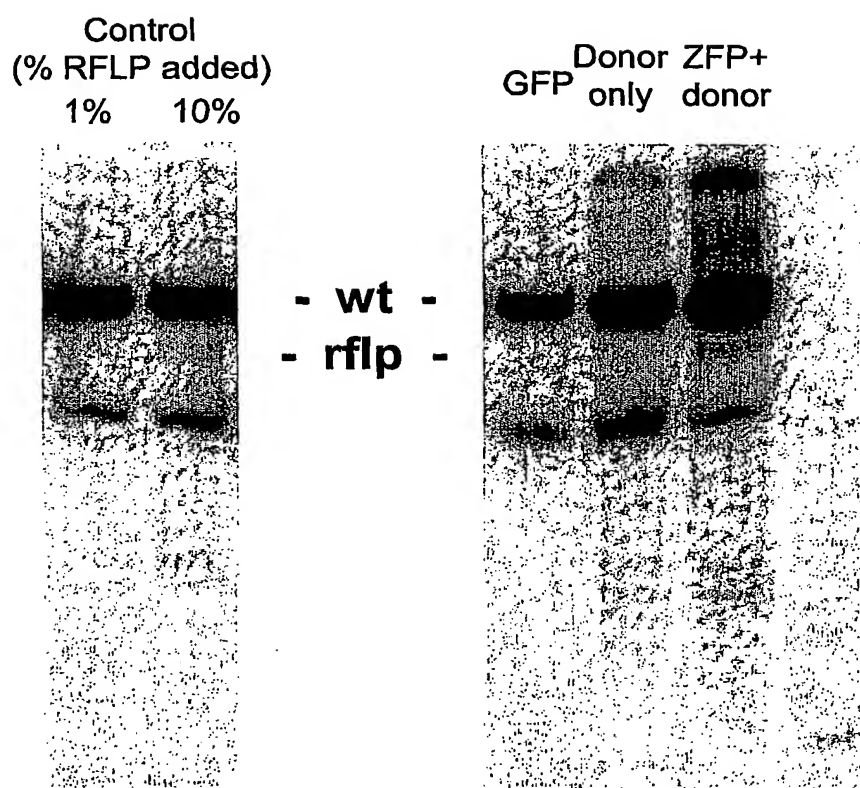
FIGURE 38

FIGURE 39

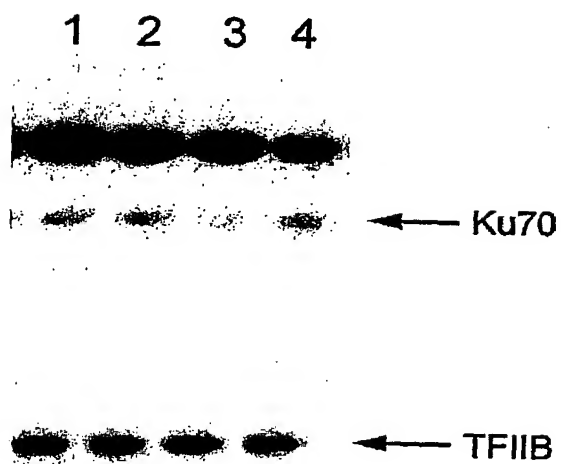


FIGURE 40**sca-29b:**

MAERPFQCRICMRNFSQSGDLTRHIRTHTGEKPFACDICGRKFATSANLSRHTK
IHTGGGGSQKPFQCRICMRNFSDRSALSRHIRTHTGEKPFACDICGRKFAQSG
HLSRHTKIH (SEQ ID NO:22)

sca-36a:

MAERPFQCRICMRNFSRSQTRKTHIRTHTGEKPFACDICGRKFAQKRNRTKHT
KIHTGSQKPFQCRICMRNFSDRSALSRHIRTHTGEKPFACDICGRKFAQSGNLA
RHTKIH (SEQ ID NO:23)

sca-36b:

MAERPFQCRICMRNFSTSGSLSRHIRTHTGEKPFACDICGRKFADRSDLSRHTK
IHTGGGGSQKPFQCRICMRNFSDRSALSRHIRTHTGEKPFACDICGRKFAQSG
NLARHTKIH (SEQ ID NO:24)

sca-36c:

MAERPFQCRICMRNFSTSSSLSRHIRTHTGEKPFACDICGRKFADRSDLSRHTK
IHTGGGGSQKPFQCRICMRNFSDRSALSRHIRTHTGEKPFACDICGRKFAQSG
NLARHTKIH (SEQ ID NO:25)

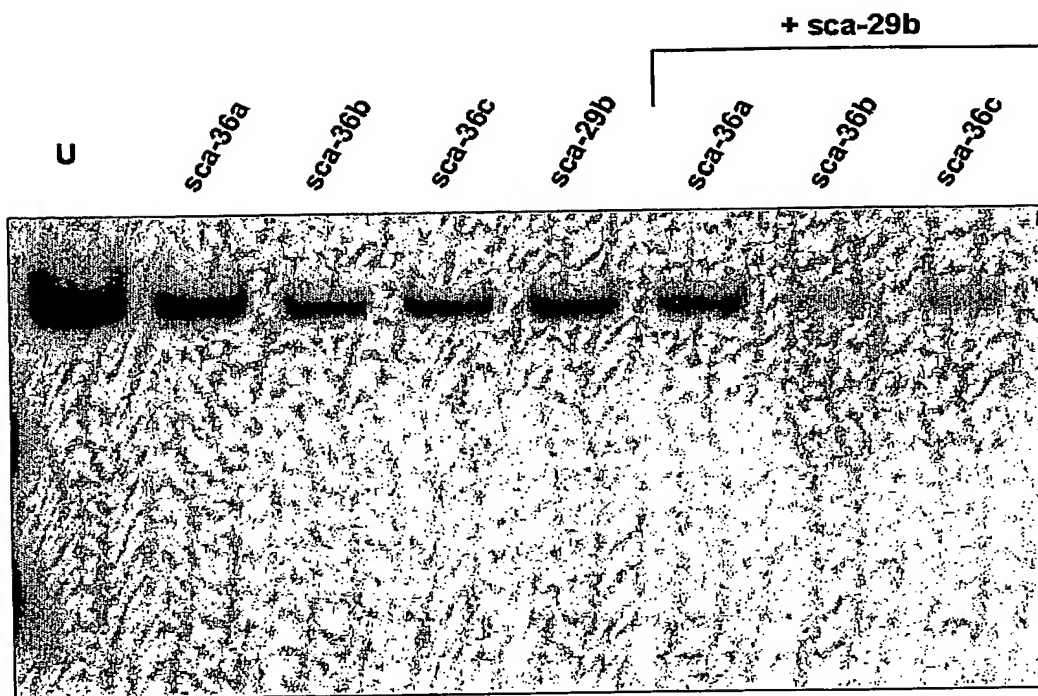
FIGURE 41

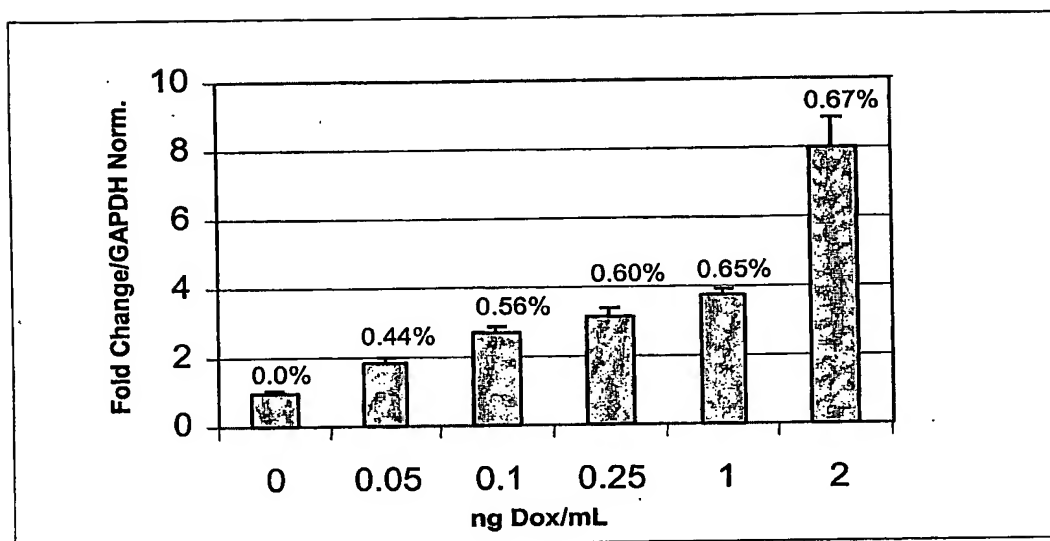
FIGURE 42

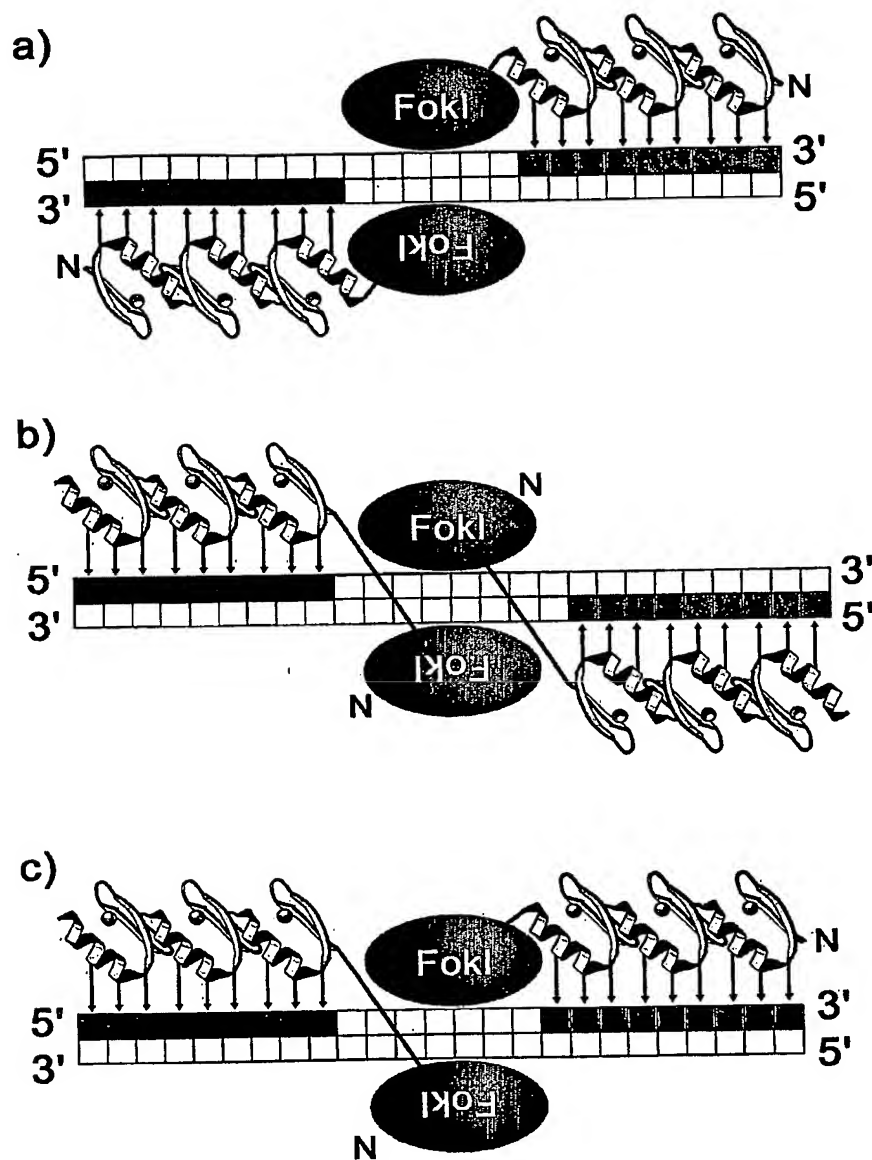
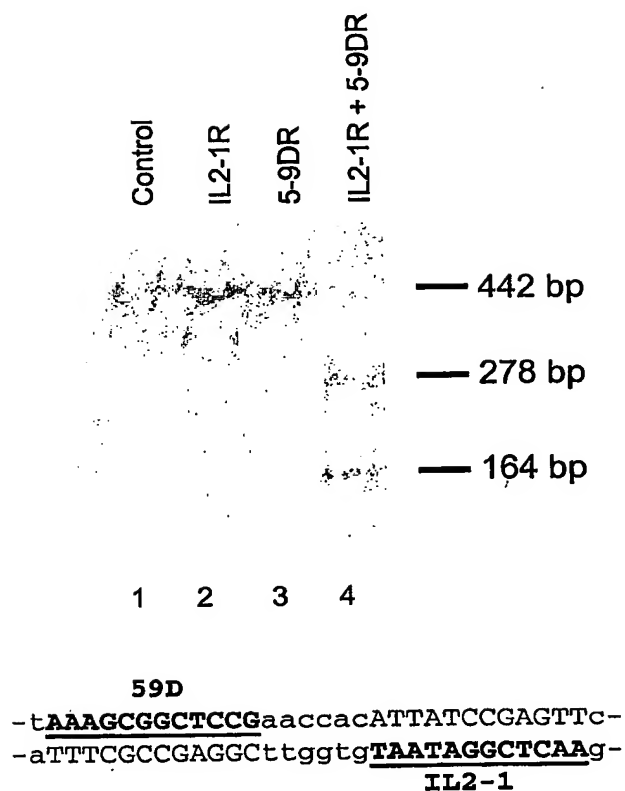
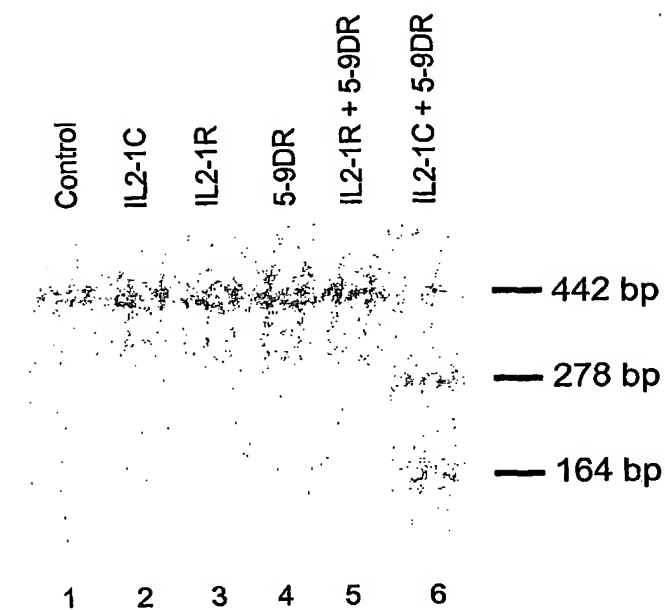
FIGURE 43

FIGURE 44

(SEQ ID NO: 211)

FIGURE 45

59D IL2-1
-tAAAGCGGCTCCGaaccacAACTCGGATAATg-
-aTTTCGCCGAGGCttggtgTTGAGCCTATTAc-

(SEQ ID NO: 212)

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record.**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☒ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.